Person and Place: The Compounding Effects of Race/Ethnicity and Rurality on Health

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Rural racial/ethnic minorities constitute a forgotten population. The limited research addressing rural Black, Hispanic, and American Indian/Alaska Native populations suggests that disparities in health and in health care access found among rural racial/ethnic minority populations are generally more severe than those among urban racial/ethnic minorities.

We suggest that disparities must be understood as both collective and contextual phenomena. Rural racial/ethnic minority disparities in part stem from the aggregation of disadvantaged individuals in rural areas. Disparities also emerge from a context of limited educational and economic opportunity. Linking public health planning to the education and economic development sectors will reduce racial/ethnic minority disparities while increasing overall well-being in rural communities. (*Am J Public Health.* 2004;94:1695–1703)

Optimal health outcomes will not be achieved without a better balance in the medical and nonmedical determinants of health.

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DISPARITIES IN HEALTH

resources and health outcomes among racial/ethnic minority populations have long been a recognized public health problem.[2,3] However, *rural* racial/ethnic minorities are among the most understudied and underserved of all groups in the United States.[4] Assessment, a key public health function,[5] has often bypassed these populations.

Annual national tracking statistics, such as the *Health US* and *Advance Data* series published by the National Center for Health Statistics, present health indicators by race/ethnicity and by rural/urban residence but seldom report subsets within those categories. Important studies, such as the Community Tracking Study, generally report only national data,[6] even when racial/ethnic minority populations are examined.[7] The Agency for Healthcare Research and Quality attempted to examine racial/ethnic minority status and rurality simultaneously in its National Healthcare Disparities Report, but lack of data limited the analyses.[8] In the rural research literature, published information is often insufficient to enable the reader to estimate prevalences within rural racial/ethnic minority populations. As a result, the extent of disparities in health, insurance, and health care experienced by rural racial/ethnic minorities is not adequately tracked, nor are strengths and advantages of rural communities identified and explored as potential models.

Research assessing rural racial/ethnic minorities is seldom conducted, perhaps because researchers fear that their work will be characterized as "discovering the obvious."[4(p234)] However, aggregate rural statistics tend to reflect the White population. Of approximately 55 million persons residing outside metropolitan counties, 46 million (84%) are White. About 4.5 million (8%) are Black, 2.6 million (5%) are non-Black Hispanic, and 870 000 are American Indian/Alaska Native with about 745 000 Asian/Pacific Islanders (estimates developed by the authors from 2000 National Health Interview Survey data). Aggregate statistics obscure the situation of rural racial/ethnic minorities. Further, although the effect of racial/ethnic minority status is generally similar across rural and urban areas, the *combined* effects of rural residence and minority race/ethnicity can result in greater disadvantage than these characteristics alone.

Our article has a dual purpose. First, we wish to end the invisibility of rural racial/ethnic minorities. We hope to convince public health practitioners that these populations are sufficiently large, sufficiently distinct, and in many cases sufficiently disadvantaged to merit study. Second, we wish to highlight the role of community context in shaping health for rural racial/ethnic minority populations. Disadvantage among rural racial/ethnic minorities is a function of place as well as race, and programs designed to reduce disparities must address the role of community institutions in shaping individual experience.

DEFINITIONS AND SCOPE

A conceptual issue pertinent to geographic and race/ethnicity data is the distinction between collective and contextual effects.[9] To some extent, information on rural racial/ethnic minorities describes "collective effects" resulting from the concentration of persons with certain characteristics. Public health research often incorporates collective effects, as when models control for median income in a neighborhood as well as individual economic status.[10] Equally important, although more difficult to address, are "contextual effects . . . the broader political, cultural, or institutional context. . . ."[9(p651)] A review of 25 studies identified only 1 variable that explicitly pertained to the community (number of community groups) rather than being an aggregate of persons residing within the community.[10] Increasing attention is being paid to contextual effects and how these are appropriately conceptualized and measured, although full agreement has not yet been reached.[11] When we

speak of contextual effects, we refer to culture and its expression through social institutions as well as resource availability. For example, states in which the segment of the population whose household income is below the federal poverty level and disproportionately composed of racial/ethnic minorities offer lower support through Aid to Families with Dependent Children than do other states.[12] We view this difference as a contextual effect: the expression of a culture of racial bias through an institution, the Aid to Families with Dependent Children system.

We focus on disparities in 3 key areas: resources, health insurance, and access to care. We do not attempt to summarize the extensive literature on racial disparities in disease, quality of care, or mortality, as excellent reviews already address these issues.[4,7,13–15]

When reviewing the literature, we included any research described as addressing rural populations; definitions of *rural* used by individual studies vary. In analyses developed for this article, *rural* is defined by residence in a nonmetropolitan county, as classified by the Office of Management and Budget.[16] As noted by previous analysts,[17] a metropolitan/nonmetropolitan dichotomy drawn at the county level is limited. Large urban counties often contain areas that would be considered rural if measured at the census tract or zip code level. These rural areas are not captured in a dichotomous definition. At the other extreme, a single rural category hides distinctions between very small rural and frontier places and relatively populous rural areas. For certain populations, such as rural American Indians/Alaska Natives, significant differences between rural communities are obscured by a global definition.[18]

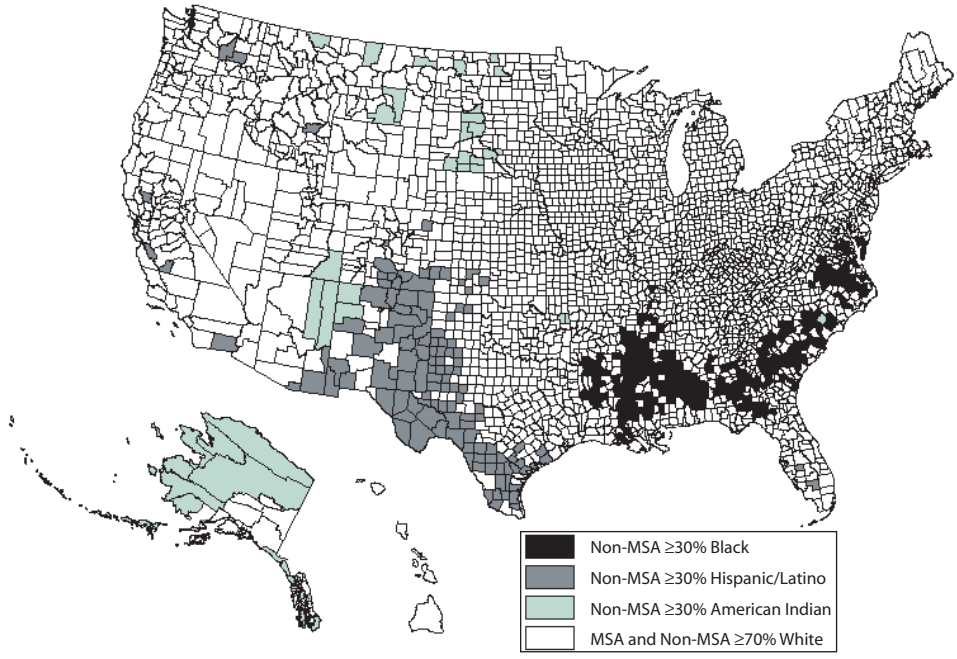
Finally, we are limited by the available literature and by population distributions to examining issues pertaining to Black, Hispanic, and, to a lesser extent, American Indian/Alaska Native rural populations. The Asian/Pacific Islander population tends to be urban; only 10 rural counties, in Hawaii and Alaska, have more than 10% of the total population in this group.

RURAL RACIAL/ETHNIC MINORITIES: CONCENTRATED IN THE SOUTH AND WEST

The concentration of rural racial/ethnic minority populations in specific geographic regions links collective and contextual effects for these populations (Figure 1). Half of rural Blacks live in just 4 states—Mississippi, Georgia, North Carolina, and South Carolina. Adding Alabama, Louisiana, and Texas brings the total to 75%. Rural Hispanics are similarly concentrated in the South and West. More than a quarter of all rural Hispanics live in Texas; including New Mexico, California, Arizona, and Colorado brings the total to 53%. More than half (54%) of all American Indians/Alaska Natives live in the 5 states of Oklahoma, Arizona, New Mexico, Alaska, and North Carolina. Cultural, social, economic, and health care institutions in these states have evolved in the presence of large racial/ethnic minority populations.

Regional concentration of rural racial/ethnic minorities reflects historic patterns and may be perpetuated by land ownership. Land has "tremendous economic, cultural, and political value to rural communities"[19(p63)] and constitutes a resource that cannot be transported or easily duplicated elsewhere if sold. Although this topic is beyond the scope of this article, policies that support the retention of land by racial/ethnic minority populations should be considered as a key element in rural economic development and social justice.

Research on the Black population has found that geographic concentration has deleterious effects on health and mortality; such effects may also be present among other racial/ethnic minority groups and in rural as well as urban locales.[20] As the proportion of Blacks in the population



Note. MSA = metropolitan statistical area.

FIGURE 1— Rural counties in which 30% or more of the population is Black, Hispanic, or American Indian/Alaska Native, by race/ethnicity; remaining counties are at least 70% White, 2000.

increases across US counties, so do age-, gender- and race-adjusted Black mortality rates.[21] Geographic areas with high concentration of Blacks (focal and surrounding areas) have greater occupational and wage disparities between Blacks and Whites.[22] Disadvantage is both a collective and a contextual effect: geographic units surrounded by other units with high Black concentrations tend to be in the South, a less supportive institutional environment. Institutional effects, measured at the state level, also affect occupation and wage outcomes.[22]

LACK OF HUMAN CAPITAL AND RESOURCES

Health issues among rural racial/ethnic minorities cannot be separated from educational and economic issues. Education has direct effects on health, through enabling care for self and children, and indirect effects, by facilitating access to jobs with health insurance. In 1999–2000, nearly one third of rural Black working-age adults (39.5%) and one half of rural Hispanic working-age adults (50.0%) lacked a high school diploma, compared with 19.3% and 42.2%, respectively, in urban areas.[23] Among Whites, 14.9% of rural and 8.6% of urban adults had not completed high school.[23] The educational status of older racial/ethnic minority adults reflects the school systems and economic realities of their youth. More than three quarters of rural Black (76%) and Hispanic (81%) elders lacked a high school diploma in 1997–1998; corresponding urban values were 54% and 67%.[24] Among Whites, 39% of rural and 28% of urban older adults lacked a high school diploma.[24]

Educational disadvantage among rural Blacks is exacerbated by migration patterns. In the South, Blacks moving from rural to urban areas have been more highly educated than either those who remain or those who move from urban to rural areas. The net result is a loss of college graduates in rural areas and an increase in persons with less than a high school education.[25] In this context, continuing rural–urban disparities in school systems, particularly in the South, are not encouraging.[26]

In 2001, poverty among rural residents was 28% higher than among urban dwellers, 14% versus 11%, respectively.[27] Although approximately 1 in every 9 rural Whites (12%) lived in poverty in 1999, nearly 3 of every 10 rural Blacks and American Indians/Alaska Natives (30%, both), and about 1 in every 4 rural Hispanics (26%), did so. Further, as the proportion of racial/ethnic minority residents in a community increases, so do poverty, educational disadvantage, and isolation in the community overall (Table 1).

Although unemployment is higher in rural than in urban areas,[28] poverty among rural racial/ethnic minorities is not solely attributable to unemployment or underemployment. Rural racial/ethnic minorities are more likely than both rural Whites and corresponding urban racial/ethnic minorities to hold occupations in which the likelihood that a worker will remain in poverty is relatively high.[29] The proportion of rural racial/ethnic minorities in high-poverty job classifications is startling: 68% of rural Blacks, 62% of rural Hispanics, and 48% of rural Native Americans hold such jobs, compared with 43% of rural Whites. Among urban residents, high-poverty occupations are held by 47% of Blacks, 57% of Hispanics, 44% of Native Americans, and 28% of Whites.[29] Discouragingly, many of the low-paying jobs held by rural racial/ethnic minorities are classifications likely to move offshore in search of still-cheaper labor.[30]

Support systems to counteract poverty, such as Temporary Assistance for Needy Families and Medicaid, differ at the state level. States with low per capita incomes, states in which the poverty population is largely rural, and states in which the poverty population is largely racial/ethnic minority, generally offer lower Temporary Assistance for Needy Families benefits per poor child.[12] These differences particularly affect rural racial/ethnic minorities, given their concentration in states that also have low per capita incomes.[31]

RURAL RACIAL/ETHNIC MINORITIES AND HEALTH INSURANCE

Health insurance coverage affects decisions about seeking care when experiencing illness,[32] the level of care received if sought,[33] and health outcomes.[34] Both race and residence have been found to influence the likelihood that an adult will have insurance.[35] Rural job categories, lack of unionization, and small employers contribute to poorer insurance coverage among rural workers.[36] Low-income workers are least likely to be eligible for health insurance, and to take it if eligible.[37,38]

Rural racial/ethnic minority residents are generally less likely to be insured if aged younger than 65 years and less likely to have supplemental insurance if Medicare-eligible, than both rural White populations and urban populations of all racial/ethnic groups (Table 2). When insured, rural racial/ethnic minorities are more likely than White rural residents to rely on public insurance. The proportion of rural children with private insurance, for example, ranges from 22% among American Indian/Alaska Native children to 43% among children of "other" race; all racial/ethnic minorities are far below the 71% of White rural children who are privately insured. A similar pattern of reduced access to private insurance among rural racial/ethnic minorities is present across age groups. Further, the effects of race/ethnicity on insurance are more severe in rural areas across all age groups, as indicated by a significant interaction term (described in a note to Table 2).

Improvement is not likely to occur without intervention. Gaps in insurance coverage between racial/ethnic minority and White populations nationally have persisted between 1987 and 1996[38] and between 1997 and 2001.[6] Nationally, Spanish-speaking Hispanic adults are least likely to have health insurance of any ethnic group.[40] Periodic gaps in coverage contribute to lack of insurance in rural areas,[41] and because of preexisting condition exclusions, can hinder access when insurance is regained.[42] More than a third of rural children (36%) experienced insurance gaps over a 3-year period, compared with 31% of urban children.[43] Racial/ethnic minority status, low parental education, and low income were associated with increased risk of lost coverage. Insurance type may contribute

TABLE 1—Selected Characteristics of Rural Counties, by Proportion of Racial/Ethnic Minority Populations: United States, 2000

		Racial/Ethnic Minority Populations in Rural Counties		Total County Population				
Proportion of Racial/Ethnic Population, %	Minority Number of Counties	Average Percentage Racial/Ethnic Minority	Average Percentage Racial/Ethnic Minority Population Living Below Federal Poverty Level	Average Percentage Aged 0–17 Years Living Below Federal Poverty Level	Average Percentage With Income Below Federal Poverty Level	Average Percentage Families With Income Below Federal Poverty Level	Percentage Adults With High-School Diploma	Percentage Housing With Telephone
Black								
0–1	1231	0.3	19.0	18.0	13.6	10.2	79.6	96.1
1–5	440	2.5	21.1	20.5	15.0	11.2	74.8	95.5
5–10	153	7.2	22.0	21.0	14.9	11.1	73.5	95.2
≥10	497	32.5	30.9	26.0	16.0	16.0	68.7	93.1
Hispanic								
0–1	833	0.7	20.4	20.1	15.5	12.0	75.3	95.3
1–5	954	2.2	22.6	19.5	14.9	11.1	77.3	95.3
5–10	200	7.1	25.3	18.7	13.5	10.0	78.8	95.7
≥10	316	29.9	26.5	24.8	17.6	13.8	71.8	94.8
American Indian/ Alaska Native								
0–1	1825	0.4	24.2	20.2	15.1	11.5	75.2	95.4
1–5	301	2.1	24.7	20.5	15.0	11.3	79.1	95.9
5–10	63	7.0	27.2	19.0	14.3	10.6	80.4	95.8
≥10	114	31.7	30.2	23.9	21.3	17.0	77.1	91.0

Note. A separate tabulation is not provided for Asian/Pacific Islander rural populations, because this population is not highly concentrated. The Asian/Pacific Islander population reaches 10% of the total population in only 7 rural counties: 3 in Alaska and 4 in Hawaii.
Source: Area Resource File.[90]

to gaps in coverage. Because of limited eligibility periods, persons insured by Medicaid are more likely to lose coverage during the course of a year than those with private insurance.[44]

RURAL RACIAL/ETHNIC MINORITIES AND ACCESS TO CARE

Access requires a provider. Across rural America, 65% of rural counties are whole or partial health professional shortage areas (HPSAs). Shortages are more common in counties where racial/ethnic minorities represent more than half the population. Four of every 5 rural counties (81%) in which Hispanics are the majority population are HPSAs, as are 83% of counties with a Black majority, and 92% of counties with an American Indian/Alaska Native majority. Absence of providers is entwined with rural poverty and lack of insurance, as estimates suggest that rural racial/ethnic minority communities cannot economically support needed health care providers.[45]

Most studies have assessed the effects of racial/ethnic minority status, but not residence, when examining access. Nationally, nonelderly Hispanics and Blacks have greater unmet needs, are more likely not to have a regular doctor, are less likely to use mental health services, and report fewer physician visits than Whites.[6,46,47] Nationally, non-White children are more likely to have unmet clinical needs, to lack appropriate immunizations, to report having foregone care, to lack a usual source of care,[48] and to report fewer physician visits than White children. Further, it has been suggested that even with equal utilization, racial/ethnic minority children would benefit less because of cultural differences and use of different care venues.[48]

Information regarding racial/ethnic minority populations in rural areas is sparse. Analysis of the 1992 National Health Interview Survey found that rural residents aged younger than 65 years of all race/ethnicity groups were less likely to have visited a physician in the previous year than were urban Whites. Race was not significant when insurance, need, and demographic factors were held constant.[50] A multivariate analysis of the 1997–1998 National Health Interview Survey that was similar but limited to working-age adults found that both rural residence and Hispanic or "other" ethnicity reduced the odds of a recent physician visit.[23] Analysis of the 1999–2000 National Health and Nutrition Examination study revealed that rural Blacks were more likely than urban Whites to have undetected diabetes and, when diagnosed, were less

TABLE 2—Insurance Status and Ambulatory Care Visits (Yes or No) Among US Residents, by Age, Residence, and Race/Ethnicity: United States, 1999–2000

	White, % (SE)	Black, % (SE)	Hispanic, % (SE)	AI/AN, % (SE)	Other % (SE)
Children (aged 0–17 y)					
Rural					
Health insurance					
Private	**71.2 (1.1)**	**37.5 (2.1)**	39.0 (4.2)	**21.5 (6.6)**	**43.1 (6.7)**
Public	**18.3 (1.0)**	**47.8 (2.2)**	32.0 (3.1)	**38.5 (5.9)**	**38.1 (10.0)**
Uninsured	**10.5 (0.6)**	**14.7 (2.2)**	29.0 (3.1)	**40.0 (5.7)[a]**	**18.9 (7.6)**
Visit within past year[b]	**87.3 (0.8)**	**77.9 (2.7)**	77.6 (1.9)	**72.5 (4.9)**	**87.3 (4.4)**
Urban					
Health insurance					
Private	83.8 (0.5)	53.0 (1.5)	46.3 (0.9)	49.3 (5.0)	74.5 (2.1)
Public	8.9 (0.4)	35.5 (1.3)	27.8 (0.8)	24.3 (5.3) [u]	14.9 (1.6)
Uninsured	7.3 (0.3)	11.5 (0.7)	26.0 (0.7)	26.4 (5.6)	10.6 (1.3)
Visit within past year	89.9 (0.4)	86.9 (0.8)	80.1 (0.8)	81.7 (5.0)	84.5 (1.4)
Working-age adults (aged 18–64 y)					
Rural					
Health insurance					
Private	**75.5 (0.8)**	**50.8 (2.0)**	45.6 (4.0)	41.6 (8.1)	59.2 (4.8)
Public	**6.8 (0.4)**	**17.3 (1.5)**	9.5 (2.0)	16.5 (3.4)	14.2 (3.5)
Uninsured	**17.8 (0.6)**	**31.9 (1.6)**	44.9 (5.2)	41.9 (7.6)	26.6 (4.3)
Visit within past year	80.1 (0.5)	73.1 (3.0)	62.4 (2.6)	77.1 (3.3)	**84.9 (3.5)**
Urban					
Health insurance					
Private	84.3 (0.3)	65.1 (1.0)	51.9 (0.9)	55.0 (4.2)	77.2 (1.3)
Public	3.8 (0.1)	13.5 (0.7)	9.2 (0.4)	12.8 (2.4)	4.6 (0.7)
Uninsured	12.0 (0.3)	21.4 (0.7)	39.0 (0.9)	32.2 (4.9)	18.2 (1.2)
Visit within past year	80.5 (0.3)	77.2 (0.6)	64.8 (0.9)	67.1 (5.9)	72.0 (1.2)
Older adults (aged ≥ 65 y)					
Rural					
Health insurance					
Private	78.5 (1.0)	**27.3 (3.3)**	34.3 (7.8)	48.8 (11.3)[u]	67.7 (14.2) [u]
Public	21.1 (1.0)	**70.4 (3.8)**	58.8 (7.6)	41.1 (12.0) [u]	32.3 (14.2) [u]
Uninsured	0.4 (0.1)	**2.3 (1.1)**	6.9 (3.8)	10.1 (6.7) [u]	0
Visit within past year	90.8 (0.7)	90.1 (2.2)	84.5 (5.9)	100.0 (0.0) [u]	92.1 (8.5) [u]
Urban					
Health insurance					
Private	77.3 (0.7)	51.0 (2.2)	35.0 (1.9)	33.9 (11.6) [u]	51.0 (4.5)
Public	22.1 (0.7)	48.0 (2.2)	60.9 (1.9)	58.6 (12.8) [u]	45.3 (4.5)
Uninsured	0.5 (0.1)	1.0 (0.3) [u]	4.1 (0.9)	7.4 (7.1) [u]	3.8 (1.9) [u]
Visit within past year	92.6 (0.4)	90.0 (1.1)	87.2 (1.2)	65.2 (12.5) [u]	90.8 (2.2)

Note. AI/AN = American Indian/Alaska Native. Data for the analysis were drawn from the 1999–2000 National Health Interview Surveys. Estimates flagged with a *u* are based on fewer than 30 unweighted observations or have standard errors greater than 30% of the estimate. These estimates are considered statistically unreliable and should be interpreted with caution. Boldface numbers indicate that rural estimates differ from urban estimates, based on χ^2 testing, at $P = .01$ or better. Tests for insurance have 2 *df*; tests for visits have 1 *df*. Race/ethnicity effects within rurality: type of insurance differs significantly by race/ethnicity within residence at $P < .0001$ for all age groups; likelihood of visit within past year varies by race/ethnicity within residence at $P < .0001$ for all categories except rural older adults; for rural older adults, race effects are significant at $P = .0482$. Interaction between race/ethnicity and rurality: interaction effects are significant for type of insurance for all age categories. (For children, $P = .0106$; for working-age adults and older adults, $P < .0001$); interaction effects are significant for visit within past year for working-age adults ($P = .0107$) but not for children or older adults.

[a]Among American Indian/Alaska Native populations, persons whose only source of care is the Indian Health Service are classified as uninsured.

[b]"Visit within past year" does not include hospitalization, emergency room visits, or home health visits.

likely to have their diabetes well controlled.[51]

Table 2 shows 1999–2000 estimates of the proportion of children, working-age adults, and elders who visited a provider at least once during the past year, a simple measure of access. At all ages, differences between racial/ethnic minority and White populations are statistically significant. Rural/urban differences were only significant for Black children.

Much of the literature on rural access disparities examines specific services or populations within specific states. Among children and working-age adults, the general pattern is lower use of services among rural racial/ethnic minorities, although differences may be attributable to population characteristics rather than to location. For example, rural racial/ethnic minorities report lower use of services for sickle cell anemia than urban racial/ethnic minorities.[52] Rural racial/ethnic minorities have reduced odds of receiving preventive care[53] and cancer screening services,[54] effects linked to differences in education and other characteristics. Rural American Indians/Alaska Natives are more likely to have inadequate prenatal care than urban American Indians/Alaska Natives; both populations fare worse than Whites.[55]

There are generally few race and rurality differences in health care use among persons aged 65 years and older after need is taken into account.[23,56] Optimistically, less severe declines in disability and functional health status over time have been found among Black and Hispanic older adults than among Whites, with distance to care (proxy for rural) having no significant effect.[57]

Hospitalization for ambulatory care–sensitive (ACS) condi-

tions is one metric for lack of access to primary care.[58,59] Results vary depending on the populations studied and the methods used, but both rurality and non-White race/ethnicity are generally positively associated with hospitalization for ACS conditions.[59–65] In general, low levels of community resources, including socioeconomic indicators and provider availability, and high proportions of racial/ethnic minority residents have been associated with high rates of ACS hospitalization, although the relative roles of health care infrastructure and other factors remain to be determined.[66] Several risk factors converge for rural racial/ethnic minorities. For example, residence in an HPSA has been associated with increased rates of ACS hospitalizations[67]; counties with large racial/ethnic minority populations disproportionately have HPSA status.

ALLEVIATING RURAL RACIAL/ETHNIC MINORITY HEALTH DISPARITIES

An End to Invisibility

Surveillance activities carried out to track the health of the nation must routinely include rural racial/ethnic minority populations. Evidence from a clinical context suggests that programs designed around urban circumstances can fail to address rural needs.[68,69] However, if results are aggregated at a state or national level, planners may never recognize that rural racial/ethnic minority populations are not receiving intended programs and services. Improved surveillance will require increasing the number of rural racial/ethnic minority respondents to national health surveys in order to generate sufficient observations for accurate estimation. Similarly, state and local departments of health must monitor potential disparities among rural as well as urban racial/ethnic minorities.

Context in Disparities Research

Recognition that communities have important effects on health is growing.[70,71] Many analyses explicitly include collective effects, such as the proportion of racial/ethnic minority individuals within a given county or zip code. A contextual perspective is present in studies of the effects of residential segregation on health outcomes among Blacks[72,73] in research linking measures of income inequality to health or mortality,[74] and in research exploring the effects of rural residence on mortality.[75,76] However, many of these analyses, including an important effort to delineate key contextual correlates of health,[11] focus on urban communities.

A study of cancer screening rates illustrates the interplay between persons and places that is important when studying rural racial/ethnic minority health. The researchers studied cancer screening among Black and White residents in 3 types of county: majority Black counties in the South, other counties in the "Southern Black Belt," and the rest of the United States. Within each type of county, there were no racial differences in cancer screening rates. However, rates were consistently lower in Black counties and in other counties in the Black Belt than in the rest of the United States.[77] An analysis with no geographic component could have attributed the observed differences to race, ignoring county effects. A contextual perspective suggests that institutions in majority Black counties disadvantage *all* residents, moving the appropriate remedial action from the personal to the institutional level.

The links between rural residence, racial/ethnic minority status, and the social and economic correlates of health are highly correlated in the present and have had mutually reinforcing effects over the past century. Communities change their institutions only slowly. Persistent poverty counties, which tend to have large racial/ethnic minority populations, retain that status over decades.[78] In health, communities with high rates of ACS condition hospitalizations in 1990 still had high ACS rates in 1998.[79] Despite the difficulty, change in the context surrounding rural racial/ethnic minorities is needed to bring about lasting health improvement.

Interdisciplinary and Interinstitutional Cooperation

Policy development in public health must become "cross-sectoral" when assessing, and improving, institutions that affect rural racial/ethnic minority health.[1] Cross-sectoral work would examine income, economic development, education, housing, social and political climate, environment, and practitioners when studying health outcomes, as well as public health and medicine.[1]

An example of cross-sectoral effects may illustrate why public health should expand its purview. Recently, a "natural experiment," opening of an American Indian casino in a rural area, raised rural American Indian families out of poverty through a combination of distribution of casino profits and increased job availability. Economic change, with no other intervention, was sufficient to improve the mental health of children in these families through increased parental attention.[80] This outcome should be used as a model, and cooperation with rural economic development boards and educational systems should become an important public health activity.

Similarly, rural health planners must advocate support for local health care providers as an economic investment. Racial/ethnic minority physicians may be economic drivers in rural racial/ethnic minority communities,[81] in addition to providing care.[82] Provider training and placement programs, such as the National Health Service Corps, can affect local economies. A South Carolina study found that National Health Service Corps physician alumni, in addition to serving rural and racial/ethnic minority populations,[83] generated an estimated $15 million in annual billings (in 1998) per county in rural HPSA counties.[84] Conversely, the loss of health care providers as employers within small rural counties has significant detrimental economic consequences.[85]

Building an Equal Future

Better surveillance through improved sampling of rural racial/ethnic minority populations and routine reporting of rural racial/ethnic minority data constitutes the first step toward improving the health and welfare of rural America. Surveillance and interventions must address the context in which health care is made available and delivered, exploring institutions and communities as well as individuals.

Cross-sectoral approaches to health improvement must be tailored to local socioeconomic environments,[86] obtaining advice and guidance from racial/ethnic minorities living within those environments.[87–89]

Examining health disparities as a function of effects across multiple sectors and disciplines reflects the general trend toward multidisciplinary and multi-institutional approaches in health services research and demonstration.[90] This broad approach can improve the policy process in our poorest counties. Rural America is a reflection of our national character. Rural racial/ethnic minorities are linked to rural America through ties of land and history, and it is critical that we understand their lives as well as their health. Only then will we be in a position to develop a rural health that benefits all Americans. ■

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Human Participant Protection

No protocol approval was needed for this study. Analyses of the 1999–2000 National Health Interview Survey used only secondary data stripped of identifiers and were exempt from review.

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